2012 Cleveland Clinic/Lerner Research Institute Registration #31-R-0017

IACUC Approved Exceptions

- 1. Not meeting space requirements for primary enclosures:
 - a. Pigs: (n = 0) Pigs will be maintained in a 10 ft² stanchion for one night after a laparotomy. The pigs will be able to attend to all normal physiologic needs. During this time, the animals will be monitored and cared for 24 hours a day.
- 2. Not meeting space requirements for primary enclosures and physical restraint:
 - a. Calves (n = 5): A study testing a novel artificial heart requires bovine calves to be tethered in a stanchion (18 ft²) for up to 30 days to prevent them from damaging the monitoring lines. The tethers will be loosely fastened to the front of the stanchion to allow the calves to attend to all normal physiologic needs, except turning around. While in the stanchion the calves will be monitored and cared for 24 hours a day.
 - b. Sheep (n = 1): Sheep will be maintained in a 10 ft² stanchion for up to two days to allow for recovery following a surgery to implant novel blood pressure monitors. The sheep will be loosely tethered to prevent them from jumping out of the stanchion. The sheep will be able to attend to all physiologic needs. While in the stanchion, the sheep will be monitored and cared for 24 hours a day.
- 3. Physical Restraint:
 - a. Macaques (n = 0): Macaques will be used to research the causes and possible treatments for Parkinson's disease. Test sessions involve restraint in a chair for 2-5 hours. The animals will be awake, alert, and comfortably seated throughout the test session. If the animal shows any signs of discomfort, the test session is promptly ended.
- 4. Physical Restraint and Water Restriction:
 - a. Macaques (n = 9): Macaques are used to research the causes and possible treatments for motion disorders (i.e. Parkinson's disease). Up to 5 days per week, water is restricted to no less than 25 ml/kg/day, divided between liquid treats during test sessions and free access to a water bottle when not being tested. No less than 2 days per week, at least 40 ml/kg/day are given via water bottle. Animals are examined for dehydration daily and weighed at least twice weekly. Testing is stopped if there is any sign of dehydration and the animals are given water ad lib. Test sessions involved restraint in a chair for up to 5 hours. The animals are awake, alert, and comfortably seated throughout the test session. If the animal shows any signs of discomfort or is satiated, the test session is ended.
- 5. Multiple Major Surgeries
 - a. Macaques (n = 2): Macaques will have headposts and cranial access chambers implanted over two procedures to minimize the time the animal is anesthetized at any single time and to allow each implant to heal in place. Surgical intervals are greater than one month.
 - b. Goats (n = 34): Goats have a tibial defect created and then a novel bone graft is implanted one month later to model the treatment of a chronic non-healing bone defect.
 - c. Calves/Sheep (n = 0): Calves and sheep being used for artificial heart, blood pressure monitor, or valve studies may have a second surgery done if necessary to repair the device or to stop internal hemorrhage.
 - d. Dogs (n = 0): Dogs may have two sternotomies done. The first is to implant a pacemaker and an epicardial sensor designed to detect heart failure and the second is to implant monitoring instrumentation. The surgeries will be at least a month apart.